DOCUMENT RESUME

ED 255 845 CG 018 177

AUTHOR Wodarski, John S.
TITLE Teams-Games-Tournaments: Teaching Adolescents about Alcohol and Driving.
SPONS AGENCY Georgia Univ., Athens. School of Social Work.
PUB DATE Aug 84
CONTRACT DTRS-5683-C-00053
NOTE 23p.; Paper presented at the Annual Convention of the American Psychological Association (92nd, Toronto, Ontario, Canada, August 24-28, 1984).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Adolescents; *Alcohol Education; Attitude Measures; *Drinking; *Peer Influence; Program Evaluation; Secondary Education; Teaching Methods
IDENTIFIERS Georgia; *Self Management; *Teams Games Tournament

ABSTRACT

This paper describes the implementation and evaluation of a comprehensive program for teaching adolescents about alcohol use. A brief overview of research in the area of adolescent alcohol use is followed by a brief description and detailed outline of key facets of the Teams-Games-Tournaments (TGT) approach to alcohol education which is being tested throughout the State of Georgia; the approach is based on a behavioral group work perspective and encompasses peer support and group reward structures. Instruction in self-management techniques for students and instructor training are discussed. Pretest, posttest, and follow-up measures administered to students to assess knowledge of alcohol, drinking behaviors, attitudes about alcohol, self-esteem, and family relationships are described. Results are presented from a comparison of students (N=570) who participated in the TGT method with students (N=411) who received traditional instruction in alcohol education or no instruction; the findings suggest that the TGT procedure helped students gain knowledge about alcohol. Teacher and student evaluations of the TGT program are included and the significance of the TGT technique is discussed. (NRB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED255845

Teams-Games-Tournaments: Teaching Adolescents About Alcohol and Driving

John S. Wodarski, Ph.D.
Director, Research Center
School of Social Work
University of Georgia
Athens, Georgia 30602

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
John S. Wodarski
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

Paper presented at the annual meeting of the American Psychological Association, Division 38, Toronto, Canada, August 1984.

Preparation of this manuscript was facilitated by a grant from the United States Department of Transportation (National Highway Traffic Safety Administration contract number DTRS5683-C-00053), the University of Georgia School of Social Work and the University of Georgia Research Foundation, Inc.

CG 018177

Abstract

The variables influencing adolescent drinking and its consequences are reviewed. A unique educational technique, "Teams-Games-Tournaments", is described in relation to its utility for teaching adolescents about alcohol use and misuse. The implementation and evaluation of the comprehensive program are detailed.

Alcohol studies are not a new area of research. However, within the broad area of alcohol-related literature, are relatively few reports of studies directed at alcohol abuse by adolescents. Moreover, the majority of data reported are descriptive rather than analytic, and a large percentage is conflictual and ambiguous. Ironically, it is during the adolescent years that the issue of the role alcohol will play in one's life is initially confronted. There is a crucial need therefore for teenagers to have a broad foundation of accurate knowledge to draw upon when making the decisions of when and if to begin drinking, how much to drink, how often, with whom, and where. How best to approach adolescents about the subject of drinking remains to be determined.

To no one's surprise in our increasingly fast-paced world, adolescents are coming into contact with alcohol at earlier ages, and the use of alcohol has increased. According to the 1981 U.S. Department of Health and Human Services Report to the Congress on Alcohol and Health, a 1978 national survey of youths revealed that 87% of tenth through twelfth grade students had consumed alcohol (U.S. Department of Health and Human Services, 1981). It was also found that drinking increased substantially from ages 15 to 17, and that a substantial number of youths were heavy drinkers by age 15. Of the adolescents surveyed, 15% drank once per week (consuming five drinks or more), 31% experienced drunkenness six times or more per year, and 2% reported adverse consequences as a result of drinking excessively two times or more per year. Perhaps most alarming of all is that a startling 31.2% of those surveyed were classified as alcohol misusers (defined as consuming five drinks or more three times per week or more). It can be concluded from this report that youths <u>are</u> making decisions concerning the use of alcohol, and that

many are finding themselves in a spiraling cycle of increased drinking that occasionally results in negative consequences.

Other recent studies support these findings and point out that alcohol is the most widely used drug among American youths (Abelson, 1977; Johnson, 1977; Rachel, Maisto, Guess, & Hubbard, 1982). For example, in the state of Georgia alone it is estimated that there are 45,000 teenage alcoholics and approximately the same number of young problem drinkers (Kalber, 1981).

Areas of Research

There are basically five areas of research that explore variables influencing adolescent drinking: (1) parental influence, (2) peer influence, (3) environmental influence, (4) psychological variables, and (5) adolescents' attitudes toward alcohol. It is recognized that the prevalence of alcohol consumption among high school students is the result of development through predictable channels of imitation, identification, and role modeling of significant others in the person's environment (U.S. Department of Health and Human Services, 1981; U.S. Department of Health, Education and Welfare, 1971, 1974). This manuscript reviews these areas and subsequently elaborates the rationale for the intervention model chosen. It concludes with a discussion of the evaluation of the model.

Effective, comprehensive methods of teaching pupils about alcohol must be found if the youths are to make well-informed decisions about drinking. To have a full impact on youths, such education should be presented in the early adolescent years, following the influence of the parental/home setting and coinciding with the influx of the peer influence. This stage usually begins at ages 12 or 13, most often in the seventh and eighth grades. By age 15, many adolescents are drinking heavily (U.S. Department of Health and Human Services, 1981). If a program influences peer norms with a sociocultural

approach, individuals can make knowledgeable, unpressured, personal decisions regarding the use of alcohol. This is crucial for this age group. Following the establishment of peer pressure to begin drinking, there is little chance of reconstituting the peer norms.

Adolescents spend approximately 50% of their waking hours in the school. School composes the society of youth--a society in which parents are excluded, the rulers are peers, and teachers at best play the role of consultants. It stands to reason therefore that the school might provide a viable conduit for relaying information about alcohol to adolescents. It is critical, however, that young adolescents are presented with alcohol education that is exciting, motivating, personalized, and nonjudgmental.

Unfortunately, the traditional classroom method of using individual tasks and having students work alone toward a goal with few participatory, active learning experiences leads to competition for grades (Wodarski, 1981; Wodarski, Adelson, Tidball, & Wodarski, 1980). At best, using this method with alcohol education could lead to little more than a push for a good grade. At worst, there could be classroom bravado leading toward reinforcement of tendencies not to learn about alcohol. Perhaps most unfortunate of all is the possibility of the class being split into the categories of high-performing students (by either teacher or student standards) and low-performing students who are often scorned.

An alternative to the traditional approach is one based on a behavioral group work perspective and encompassing peer support and group reward structures. Teams-Games-Tournaments (TGT) is an example of such an approach. TGT was developed through extensive research on games as teaching devices using small groups as classroom work units and emphasizing the task-and-reward structures used in the traditional classroom. The TGT technique is an

alternative teaching approach that fully utilizes structure emphasizing group, rather than individual, achievement (Feldman & Wodarski, 1975; Wodarski, 1981; Wodarski et al., 1980).

The special timeliness of TGT in teaching adolescents about alcohol and how to make better decisions regarding its use is that TGT gives all students an equal opportunity to succeed. The students compete against teams whose members are at similar achievement levels. Points earned by low achievers are just as valuable to the overall team score as points earned by high achievers. This is in contrast to the typical instructional method that centers on individual assessment compared to the total class.

There was evidence in field studies comparing TGT with traditional approaches to teaching in the third through the twelfth grades that students participating in TGT demonstrated higher academic achievement than did those in traditional settings. Moreover, TGT in many instances resulted in improved attitudes toward school, more peer tutoring, increased perceived probability of success, and greater value attached by students to success in the classroom (DeVries & Slavin, 1978; Wodarski, 1981). On the basis of these positive results using TGT, it was posited that this technique would be successful in teaching youths about alcohol.

Method

The following section provides a brief overview of an alcohol education program that is now being tested throughout the state of Georgia. The overview is followed by a more detailed outline of key facets of the program, including specific components, the dependent variables, and the evaluation procedures.

Prior to the implementation of the educational program, students complete the assessment instruments that compose the baseline data. These instruments

are divided into three categories: (1) assessment of the student's knowledge of alcohol; (2) inventories designed to measure the student's attitudes about alcohol use, motivation and peer influence to drink, attitudes toward external control of alcohol consumption (such as legal or parental controls), and discord in family relations; (3) self-inventories designed to measure current alcohol use and any current problem drinking behavior by students. This manuscript presents data on the assessment of the students' knowledge of alcohol. Subsequent manuscripts will present data on other variables.

Five school systems participated in the research. These school systems were located in metropolitan (1), semi-metropolitan (2), and rural (2) areas. Superintendents granted administrative approval for participation in the research and consent forms were obtained from all students. The participants underwent a four-week educational program that focused on alcohol information and the application of concepts to their own lives. The program emphasized behavioral objectives through self-management skills that lead to responsible drinking practices.

TGI Procedure. A 200-item pool of test items was developed according to the content contained within the curriculum. From this pool, 50 questions were randomly selected for both the pretest and posttest. The completion of the pretest of alcohol knowledge provided the basis for division of students into eight-member teams within each experimental classroom. The teams are organized into high achievers (those with a high level of knowledge concerning alcohol), middle achievers (those with moderate levels of knowledge), and low achievers (those most lacking in knowledge). Achievement scores for other areas of education are not used in compiling the team groups. The teams are heterogeneous, including two high achievers, four middle achievers, and two

low achievers. Thus, the average achievement level is approximately equal across teams. The achievement levels of individual students are not revealed.

The alcohol education units are presented for fifty minutes each day for four weeks. The first three days of each week are devoted to learning alcohol concepts through discussions and various participatory activities. The fourth day focuses on working in the TGT teams on worksheets in preparation for the tournament, which is held on the fifth day of each week.

The tournament games consist of short-answer questions designed to assess and reinforce the knowledge gained in class. These are played by team members individually competing against other team members of comparable achievement levels. The team members are assigned to a tournament table where they compete against three students of comparable achievement levels from other teams. Scores are kept for each individual during the tournament games. At the end of the tournament, the top, middle, and low scorers at each table are awarded a fixed number of points for their teams.

The points earned by a student determine whether he or she will stay at the same tournament table or be moved to a table with higher- or lower-performing students for the next tournament. In this way, competitors change regularly, and the competition is not skewed in favor of any group of achievers. The points earned by an individual are added to those earned by other team members to compose a total team score. Teachers tabulate individual and team scores at the end of each tournament, and scores are posted the next school day. The program of comprehensive alcohol education is comprised of the following:*

Alcohol Education. The educational unit is in two parts. The first covers the biological, psychological, and sociocultural determinants of alcoholism. It is crucial that in learning about alcohol participants become

* A manual detailing the curriculum is available from the author.

informed of the multiple factors that have been shown to contribute to irresponsible use of alcohol and to alcoholism. This serves to assist them in making realistic judgments about their own present or possible future alcohol use and to inform them of the progression from responsible consumption to problem usage to alcoholism. This aspect of the program serves not as a scare tactic but is a research-based approach to what is currently known about the determinants of alcoholism.

The second and larger educational component consists of basic knowledge about alcohol consumption and usage. Students learn the gamut of topics related to the use of alcohol, including how much alcohol a body can absorb in a given length of time, when an intoxicated person is in an emergency situation and how to deal with such an occurrence, the physiological attributes of alcohol, the amount of alcohol in a variety of alcoholic beverages, and how to assess a drinking problem. Specific curriculum topics included are (1) Alcohol and Our Society, (2) What is Alcohol, (3) Short Term Effects of Alcohol: Intoxication and Hangover, (4) Values Clarification and Drinking, (5) Common Motivations for Drinking and Driving Behavior, (6) Drinking and Effects on Driving, (7) Alternatives to Drinking and Drinking-Driving in our Society, (8) Long Term Effects of Alcohol, and (9) Recognizing and Treating Drinking Problems.

Both divisions of the alcohol educational unit are taught via group discussions, participatory activities, and the TGT tournaments. All activities emphasize the use of peer support to enhance learning and the acceptance of responsible attitudes toward drinking.

Self-Management. From the perspective of the self-management of one's lifestyle, students are taught basic principles of social learning theory related to alcohol consumption. Emphasis is placed on the theory that all

drinking patterns--whether intelligent, abusive, or alcoholic--are learned. An individual with a drinking problem can learn to drink differently, and the drinker who currently has no problem can control circumstances so that his or her drinking will remain within acceptable bounds (Williams & Long, 1979).

Social learning theorists emphasize that the abuse of alcohol is learned from the consequences that follow drinking. These most often include (1) stress reduction, (2) removal from an unpleasant situation, and (3) an excuse for otherwise unacceptable behavior. There are many other potential reinforcers for alcohol abuse: peer pressure to drink and subsequent reinforcement by significant peers, having fun equated with how much one drinks, and the need to escape from thought of academic failure (Alibrandi, 1978).

A fundamental theme is that students can change or determine behavior by altering the environment, be it internal or external. The two major categories of environmental events that must be understood and manipulated to produce the desired outsome are: events that precede and set the stage for particular behavior, and events that follow the behavior and make them more or less likely to occur (Williams & Long, 1979). Thus, one learning experience is to help students identify environmental events controlling behavior and then alter the ones necessary to produce the desired behavior. Examples of external environment stimuli that cue drinking behavior are parties or peer statements. Examples of internal environmental events are emotional upset and loneliness. Students are instructed in how to remove or reduce stress-producing cues from the environment and how to engage in rewarding activities other than the consumption of alcohol.

A necessary aspect of self-management is learning to be assertive with others. Recent research has shown that young adult problem drinkers often

feel dissatisfaction with their interpersonal relationships with others and perceive themselves as lacking in social skills.

The students learn how to cope with the task of interacting with others in a meaningful and satisfying way. Facets of the program developed by Lange and Jakubowski (1976) are used, involving conversational skills training, use of appropriate nonverbal communication, and development of assertive behavior in learning to decrease stress produced by inadequately met social needs. Specific elements emphasized are: (1) how to introduce oneself, (2) how to initiate and continue conversations, (3) how to give and receive compliments, (4) how to enhance appearance, (5) how to make and refuse requests, (6) how to express feelings spontaneously, (7) how to use appropriate nonverbal behavior in enhancing sociability with others, (8) how to reward oneself for not drinking, and (9) how to have a helpful discussion with a significant other who has a drinking problem.

Role-play simulation exercises are used to help students practice refusing alcohol in a socially acceptable manner within normal peer contexts. This aspect of the program is modeled after the work of Foy and his associates (1976). General procedures are referred to as drink refusal training. The basic aim is to help students develop more effective ways of dealing with social pressures to consume alcohol. Specific situations are practiced in which individuals apply pressure to persuade others to consume excessive amounts of alcohol. Students practice reactions to statements such as "One drink won't hurt you," "What kind of friend are you?" or "Just have a little one, I'll make sure you won't have any more." Appropriate reactions are taught such as to (1) look directly at the pusher when responding, (2) speak in a firm, strong tone with appropriate facial expressions and body language, (3) offer an alternative suggestion such as "I don't care for a beer but I'd

love a soft drink," (4) request that the pushers refrain from continued persuasion, or (5) change the subject. These areas of self-management skills are taught through group discussion and participatory activities and, when appropriate, are incorporated into the TGT tournaments.

Adolescents also may need training in terms of coping with daily academic and social problems. In such cases they are taught a problem-solving approach based on the work of D'Zurilla and Goldfried (1971), Goldfried and Goldfried (1975), Sarason and Sarason (1981), and Spivack and Shure (1974). The general components of these programs emphasize: (1) how to generate information; (2) how to generate possible solutions; (3) how to evaluate possible courses of action; (4) how to choose and implement strategies; and (5) verification of the outcomes of selected courses of action. Problem-solving strategies include: (1) explanation of how certain consequences and stimuli can control problem-solving behavior; (2) isolation and definition of the behaviors to be changed; (3) use of stimulus control techniques to influence rates of problem-solving behavior; and (4) use of appropriate consequences to either increase or decrease a behavior.

Instructor Training. The sessions are led by the regular classroom teacher. The teachers are trained to talk comfortably with students about this sensitive issue, to be supportive of the group process, to have a sound knowledge base in social learning principles so as to help identify and analyze behavior, and to have complete and thorough knowledge of the TGT technique. Initially, teachers receive pertinent reading materials on the TGT technique, alcohol and alcohol abuse, and behavioral and self-management techniques. They are then trained by the researchers in the use of the curriculum and behavioral techniques. After the initial 4-hour training workshop the author was available to the teachers as a consultant. Periodic

videotaping of the instructors leading a class was used to assure the proper level of competence in the implementation of the program.

Outcome Measures. The following scales and inventories were administered to all participants to provide baseline data on dependent variables. Subsequent measures of the phenomena will be obtained at posttesting and follow-up.

1. Knowledge of alcohol. This scale is based on information and myths about alcohol from Engs's (1977) scale. It also provided the source for the material used to make up the TGT tournament quizzes.

2. Stumphauzer's (1980) "Behavioral Analysis Questionnaire for Adolescent Drinkers" is used for self-reports of drinking behavior. This scale is a twenty-item questionnaire that has been used to study the social learning variables in adolescents' alcohol use.

3. "The Adolescent Alcohol Questionnaire" by Glikson and associates (1980) is used to measure attitudes, motivation, and behavior associated with adolescents' alcohol use and abuse.

4. The "Index of Self-Esteem" and the "Generalized Contentment Scale" are used to provide information on students' personality characteristics that could influence the tendency to drink (Hudson, 1977; Hudson & Proctor, 1977). Self-concepts and general satisfaction with life are assessed, which could be useful in future program planning.

5. The "Index of Family Relations" is used to measure the magnitude of problems that are found in family members' relationships (Hudson, Acklin, & Bartosh, 1980).

Through these self-inventories and assessment tools, it is determined if students lack an awareness of alcohol issues. More importantly, those with a serious drinking problem are identified. When this occurs, the student is

referred to the appropriate professional service outside the auspices of this program.

Follow-Up. Follow-up of the program participants will be conducted for two years after completion of the educational program. The assessment scales used at pre- and posttest will be used at each follow-up interval to provide comparative data. In this way, maintenance of knowledge and behavior may be determined.

Results

In all participating schools, students received either instruction according to the experimental TGT method, traditional instruction, or no instruction. In total, 570 participated in the experimental TGT procedure, 384 in traditional instruction, and 411 in a control or no-treatment condition.

Data in Figure 1 compare the amount of learning according to each group.

--Insert Figure 1 About Here--

The experimental classes had significant increases in knowledge about alcohol as compared to traditional and no instruction control groups ($F=7.21$; $df=2,1347$; $p<.05$). School effects were not significant ($F=.59$; $df=4,1347$; $p<.05$) thus indicating the data are not confounded by particular characteristics of a school system. The increases between pre and posttest were as follows for the experimental groups: E I, +14; E II, +6; E III, +6; E IV, +4; E V, +15; with the average nonweighted mean being 9. This can be compared with the changes in the traditional instructional groups: I, +3; II, +2; III, +2; IV, -1; V, +2; with the average nonweighted mean being 2.2. The changes in the no instructional groups were as follows: I, -1; II, +2; III, 0; IV, +1; V, -2; with the average nonweighted mean being 0. The data suggest

that the TGT procedure helps students gain knowledge about alcohol and effects on driving behaviors.

Teacher Evaluations

Teachers basically liked the total curriculum and plan to use it next year. Moreover, they have expressed interest in expanding the TGT method to other subjects. The major factor contributing to success appeared to be the self-contained nature of the curriculum guide. After implementation of the 4-week program, teachers realized that far too little time had been devoted previously to the topic.

Student Evaluations

The students enjoyed the TGT procedure compared to the traditional instruction and no instruction control groups. In particular, they liked working together in groups, the worksheets, and the tournaments. The majority (56%) of students in the TGT groups believed that they learned a lot about alcohol, compared with 30% in the traditional group and 29% in the control groups. Most important, 86% of the TGT students believed that what they learned would affect how they drink in the future, compared to 60% in the traditional instruction and 55% in the no instruction groups. Ninety-six percent of the TGT students felt they knew what responsible drinking is after the completion of the TGT method, compared to only 6[illegible]% of those in the traditional method and 30% in the control condition.

Significance

The TGT program is conceptualized to be an effective, thorough, and easy-to-administer vehicle through which to educate youth about alcohol and its effect on driving behavior. Moreover, it is believed to contribute to the development of a responsible attitude toward the use of alcoholic beverages. There are substantial practical, educational and methodological gains from

this study. The program's unique combination of the presentation of educational material in a manner which encourages peer support, and using a group reward structure and participatory learning, provide for the development of a new concept in teaching adolescents about alcohol.

The TGT technique has been shown to be effective in educating adolescents in the areas of nutrition, math, social studies, English, and so forth, as well as in increasing the value attached by students to success in the classroom. Its use in the acquisition of knowledge about alcohol, however, had not heretofore been tested. These preliminary data suggest that the TGT technique is effective in teaching adolescents about alcohol, a subject which is espoused to be of great importance but struggled with in terms of its presentation.

Of the most outstanding gains from this project is the development of an alcohol education program, complete with curriculum and explanation of educational techniques, which may be given to teachers who in turn can incorporate the units in their teaching with minimal additional training. Thus, in addition to providing valuable and essential descriptive data about adolescents' use and views about alcohol and data reflective of effective methods to teach youth about alcohol, the project provides a complete educational package for further use by teachers and/or other school professionals. This allows teachers without formal training to easily implement an alcohol education unit.

It is widely agreed among experts in the area of alcoholism that the use of alcohol by adolescents has reached proportions of alarming concern. Unless effective programs are developed and implemented to assist youth in acquiring knowledge about alcohol and consequences of usage, the number of problem drinkers will continue to rise.

Students and teachers alike have expressed need and interest in receiving training and education in this area. Yet, despite the widespread concern over the physical, social, and emotional consequences of adolescent alcohol abuse, there have been very few scientifically supported alcohol education programs (Reed, 1981). The continued development and implementation of the program described here will provide an educational vehicle that will influence adolescents' decision-making about alcohol. This will be accomplished through peer support, group rewards, and adequate knowledge, thus increasing the likelihood of responsible decisions about alcohol use, especially as it relates to driving behavior.

References

Abelson, H. I. A national survey on drug use. Rockville, MD: National Institute on Drug Abuse, 1977.

Alibrandi, T. Young alcoholics. Minneapolis, MN: CompCare Publications, 1978.

DeVries, D., & Slavin, R. Teams-games-tournaments (TGT): Review of 10 classroom experiments. Journal of Research and Development in Education, 1978, 12, 28-38.

D'Zurilla, T. J., & Goldfried, M. R. Problem solving and behavior modification. Journal of Abnormal Psychology, 1971, 78, 107-126.

Engs, R. C. Drinking patterns and drinking problems of college students. Journal of Studies on Alcohol, 1977, 38, 2144-2156.

Feldman, R. A., & Wodarski, J. S. Contemporary approaches to group treatment. San Francisco, CA: Jossey-Bass, 1975.

Foy, C. W., Miller, P. M., Eisler, R. M., & O'Toole, O. H. Social skills training to teach alcoholics to refuse drinks effectively. Journal of Studies on Alcohol, 1976, 37 (9), 1340-1345.

Glikson, L., Smythe, P. C., Gorman, J., & Rush, B. The adolescent alcohol questionnaire: Its development and psychometric evaluation. Journal of Drug Education, 1980, 10 (3), 209-227.

Goldfried, M., & Goldfried, A. Cognitive change methods. In F. Kanfer & A. Goldstein (Eds.), Helping people change. New York: Pergamon Press, Inc., 1975.

Hudson, W. W. A measurement package for clinical workers. Paper presented at the 23rd Annual Meeting of the Council on Social Work Education, Phoenix, Arizona, February 1977.

Hudson, W. W., Acklin, J. D., & Bartosh, J. C. Assessing discord in family relationships. Social Work Research and Abstracts, 1980, 16, 21-29.

Hudson, W. W., & Proctor, E. K. Assessment of depressive affect in clinical practice. Journal of Consulting and Clinical Psychology, 1977, 45, 1206-1207.

Johnson, P. U.S. Adult Drinking Practices: Time trends, social correlates and sex roles (draft report prepared for the National Institute on Alcohol Abuse and Alcoholism under contract no. ADM 281-76-0020). Santa Monica, CA: Rand Corp., 1977.

Kalber, E. Treatment of youth users criticized. Athens, Georgia Banner Herald, December 2, 1981, 1; 14.

Large, A. J., & Jakubowski, P. Responsible assertive behavior. Champaign, IL: Research Press, 1976.

Rachal, J. V., Maisto, S. A., Guess, L. L., & Hubbarad, R. L. Alcohol use among adolescents (Alcohol and Health Monograph No. 1, U.S. Department of Health and Human Services ADM 82-1190). Washington, DC: U.S. Government Printing Office, 1982.

Reed, D. S. Reducing the costs of drinking and driving. In M. H. Moore & D. R. Gerstein (Eds.), Alcohol and public policy: Beyond the shadow of prohibition. Washington, DC: National Academy Press, 1981.

Sarason, I. G., & Sarason, B. R. Teaching cognitive and social skills to high school students. Journal of Consulting and Clinical Psychology, 1981, 49 (6), 908-919.

Spivack, G., & Shure, M. B. Social adjustment of young children. San Francisco, CA: Jossey-Bass, 1974.

Stumphauzer, J. S. Behavioral analysis questionnaire for adolescent drinkers. Psychological Reports, 1980, 47, 641-642.

U. S. Department of Health and Human Services. Fourth special report to the U.S. Congress on alcohol and health from the secretary of Health and Human Services (DHHS Publication No. ADM 81-1080). Washington, DC: U.S. Government Printing Office, 1981.

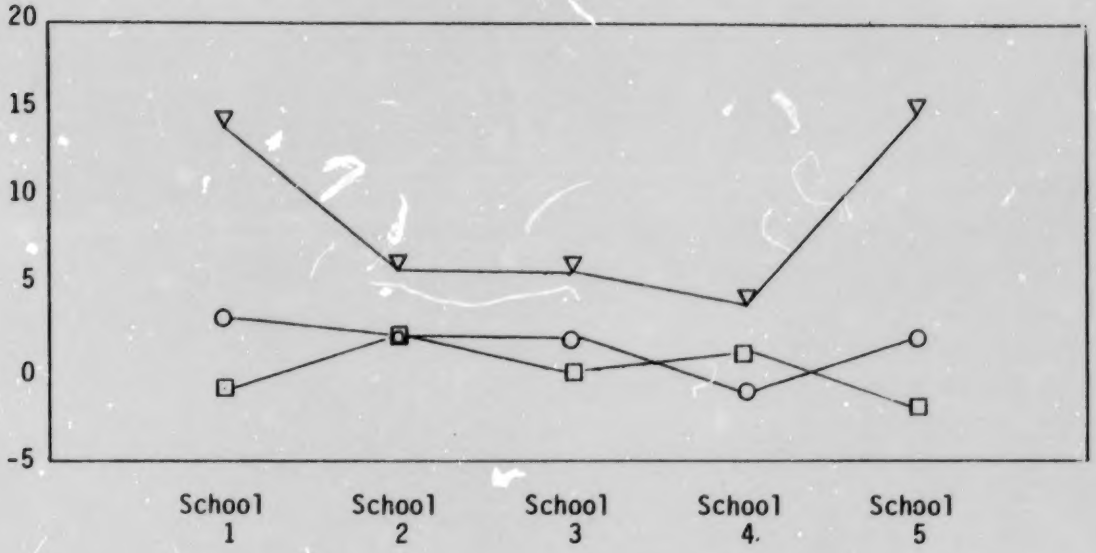
U.S. Department of Health, Education and Welfare. First special report to the U.S. Congress on alcohol and health from the secretary of HEW (DHEW Publication No. ADM 74-68). Washington, DC: U.S. Government Printing Office, 1971.

U.S. Department of Health, Education and Welfare. Second special report to the U.S. Congress on alcohol and health from the secretary of HEW (DHEW Publication No. HSM 72-9099). Washington, DC: U.S. Government Printing Office, 1974.

Williams, R. L., & Long, J. D. Toward a self-managed lifestyle. Boston, MA: Houghton Mifflin Co., 1979.

Wodarski, J. S. The role of research in clinical practice. Baltimore, MD: University Park Press, 1981.

Wodarski, L. A., Adelson, C. L., Tidball, M. T., & Wodarski, J. S. Teaching nutrition by teams-games-tournaments. Journal of Nutrition Education, 1980, 12 (2), 61-65.



TGT Group

Traditional Group

No Instruction Group

Figure Caption

Figure 1. Amount of learning according to TGT, traditional and no instruction groups and school.